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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,910

11/18/2003

Yinghui Dan

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EXAMINER

KUBELIK, ANNE R

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

08/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/715,910	Applicant(s) DAN ET AL.	
	Examiner Anne R. Kubelik	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) 5-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/18/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I and lipoic acid in the reply filed on 29 May 2007 is acknowledged. The election of soybean only applies to group III and will only apply if Groups I and III are rejoined.

Claims 5-15 are withdrawn from consideration as being drawn to nonelected inventions.

The restriction is made final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al (US Patent 6,365,407, filed March 2001) in view of Packer et al (1995, Free Rad. Biol. And Med. 19:227-250).

The claims are drawn to a method comprising culturing a plant cell on a media comprising 5 μ M to 100 μ M lipoic acid.

Kulkarni et al disclose a method comprising culturing a Taxus cell on a medium comprising 1-5 mg/l of antioxidants (claim 5). Kulkarni et al do not disclose lipoic acid as the antioxidant.

Packer et al teach lipoic acid is a biological antioxidant (Table 1).

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At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the method comprising culturing a plant cell on a medium comprising an antioxidant as taught by Kulkarni et al to use lipoic acid as described in Packer et al as the antioxidant. Packer et al teaches that lipoic acid is the "ideal", "universal antioxidant" (pg 228, right column, paragraph 2). It would have thus been obvious for one of skill in the art to try lipoic acid as the oxidant in the method of culturing a Taxus cell taught by Kulkarni et al.

Kulkarni et al teaches use of 1-5 mg/l antioxidant. As the molecular weight of lipoic acid is 206.32, 1-5 mg/L would be at a concentration of 5-25 μ M.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson et al (1997, Phyton 37(3):31-38 in view of Packer et al (1995, Free Rad. Biol. And Med. 19:227-250).

The claims are drawn to a method comprising culturing a plant cell on a media comprising 2 μ M to 100 μ M lipoic acid.

Benson et al disclose method comprising culturing a plant cell on media (Fig. 1) and that plant cell culture is affected by free radicals (Table 1). Benson et al do not disclose use of antioxidants in plant tissue culture media.

Packer et al teach lipoic acid is a biological antioxidant (Table 1).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the method comprising culturing a plant cell on media as taught by Benson et al to use lipoic acid as described in Packer et al as antioxidant in the media. Packer et al teaches that lipoic acid is the "ideal", "universal antioxidant" (pg 228, right column, paragraph 2). One of ordinary skill in the art would have been motivated to do so because Benson et al suggests testing the effects of antioxidants on plant tissue culture (paragraph spanning pg 36-37).

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One of skill in the art would try lipoic acid because Packer et al teaches that lipoic acid is the "ideal", "universal antioxidant" (pg 228, right column, paragraph 2).

In the process of trying lipoic acid, one would test various concentrations of lipoic acid in the medium; these concentrations would include low ones in the range of 2 μ M to 100 μ M, as one would be cautious when first testing a new media component.

Conclusion.

5. No claim is allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

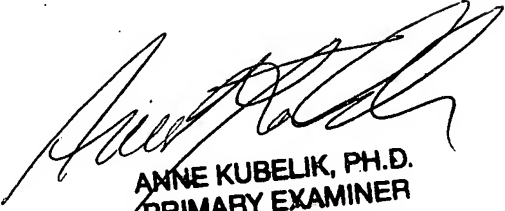
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

The central fax number for official correspondence is (571) 273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne Kubelik, Ph.D.
August 1, 2007



ANNE KUBELIK, PH.D.
PRIMARY EXAMINER